Centre for Machine Learning and Intelligence

Prompt Engineering

Professional Certificate Course-Applicable for Post Graduate students

From the Academic year 2024-2025 onwards

Duration :40 Hours

Objectives:

1. To know about the basics of prompt engineering.
2. To become familiar with leveraging Generative AI.
3. To understand the foundations of Language Models .

Unit 1: INTRODUCTION TO PROMPTNESS (10 hours)

Understanding the importance of promptness in engineering, The Psychology Behind AI Interactions, building a prompt architecture, Designing a modular prompt architecture. Task management techniques-Tools - Todoist or Trello. Crafting prompts for different applications Overview: marketing, product management, customer service, data analysis, content creation, legal research and code generation. Crafting Prompts for Different Applications using ChatGPT - Case Studies.

Unit 2: THE ART OF PROBLEM-SOLVING

Problem-Solving Strategies: Analytical thinking and decision-making skills, Mind mapping software- Miro, Prompt Design Structure, Applying Prompt Design Structures, Problem-solving frameworks such as Six Sigma DMAIC or TRIZ Effective Communication. Importance of clear communication in engineering, written communication skills (emails, reports), Presentation skills, Communication platforms - Slack or Microsoft Teams, Presentation software – Microsoft PowerPoint or Google Slides - Case Studies.

Unit 3: POWER OF PROMPTNESS IN ANALYSIS AND THINKING

Introduction to Data Analysis and Interpretation: Basics of data analysis techniques, Statistical methods for engineering data, Data visualization tools, Tools: Spreadsheet software - Microsoft Excel or Google Sheets. Data analysis tools – NumPy, R, Visualization tools:Tableau. Creative Thinking and Innovation Techniques for fostering creativity, Brainstorming methods, Innovation in engineering projects, Brainstorming tools - Miro or Stormboard, Idea management platforms -IdeaScale or Spigit - Case Studies.

Unit 4: PROJECT MANAGEMENT AN IMPROVEMENT and Future of Prompt Engineering

Introduction to Project Management Fundamentals-project management principles, project planning and scheduling, Risk management, Project management software - Microsoft Project or Asana, Gantt chart tools - GanttPRO or TeamGantt Collaboration and Teamwork.Importance of collaboration in engineering projects, Effective teamwork strategies, Conflict resolution techniques, Collaboration platforms - Microsoft Teams or Google Workspace, Online whiteboarding tools - Miro or Microsoft Whiteboard Continuous

Improvement- Principles of continuous improvement (Kaizen), Lean manufacturing concepts. Quality management techniques, Lean management tools - Kanban boards (Trello, JIRA), Quality management software - QMS or Qualityze - Case Studies. Handling Challenges in Prompt Engineering- Common challenges in prompt engineering (e.g., data scarcity, domain adaptation), Strategies for overcoming challenges in prompt design and implementation. Best practices for troubleshooting prompt-based models. Practical Applications and Case Studies: Real-world examples of prompt engineering in action. Case studies of successful engineering projects.

Outcomes

1. Get the basic knowledge of prompt engineering.
2. Understand the basic building blocks of prompt engineering.
3. Get familiarize with tools, software and technologies for prompt engineering.
4. Analyse the opportunities of prompt engineering in multidisciplinary.

Training Provided by	**: VISAITHALAM SOLUTIONS Ltd., Coimbatore**
Certifying Body	**: VISAITHALAM SOLUTIONS Ltd., Coimbatore**
Exam mode	**: Online**
Course Hours	**: 40**
Course Fee	**: Rs.3500**

Deliverables:

- Certificate in Prompt Engineering
- Guest lectures from industry professionals.